DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 99.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-027136
Date Inspected: 03-Feb-2012

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: L & M Industrial Fabricators

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Tangent, Oregon

CWI Name:	Tom Dreyer			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☐ Yes	☑ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☐ Yes	☑ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Tower Head Chimney

Summary of Items Observed:

This Quality Assurance (QA) Inspector, Art Peterson arrived at L & M Industrial Fabricators between the times noted above to randomly observe Quality Control (QC) personnel monitor the welding operations performed by L & M personnel on the fabrication of chimney parapet walls to the Tower Heads. The following observations for the extra work being performed to the following contract change order were:

CCO: 196 - Description: Construct parapet walls at the Tower Heads

West Tower Chimney Parapet:

This QA Inspector randomly observed L & M welder Otis Smith (Welder ID #19) performing the multi-pass fillet and partial-joint penetration (PJP) groove weld weld operation per the Flux Cored Arc Welding (FCAW-G) gas shielding process in the (3F) and (3G) vertical position connecting base plate- (A15a) to the Tower Head top plate of the West Tower Head Chimney.
This QA Inspector observed QC Inspector Tom Dreyer verify prior to the start of the weld operation, that the minimum preheat temperature as per the approved WPS was established and afterwords; verified that the welding parameters (Amps, Volts, and Travel Speed) were in accordance with WPS-D1.5-FC-TC-P4-GF-3G and WPS-D1. 5-FC-002-3F using Hobart Excel Arc E71T-1 (.052") diameter electrode.

East Tower Chimney Parapet:

This QA Inspector randomly observed L & M welder David Harrington (Welder ID #34) performing the

multi-pass fillet and partial-joint penetration (PJP) groove weld weld operation per the Flux Cored Arc Welding (FCAW-G) gas shielding process in the (3F) and (3G) vertical position connecting base plate- (A15a) to the Tower Head top plate of the West Tower Head Chimney.
This QA Inspector observed QC Inspector Tom Dreyer verify prior to the start of the weld operation, that the minimum preheat temperature as per the approved WPS was established and afterwords; verified that the welding parameters (Amps, Volts, and Travel Speed) were in accordance with WPS-D1.5-FC-TC-P4-GF-3G and WPS-D1. 5-FC-002-3F using Hobart Excel Arc E71T-1 (.052") diameter electrode.

South Tower Chimney Parapet:

This QA Inspector performed magnetic particle test (MT) verification inspection on the fillet and partial-joint penetration (PJP) groove welds and ultrasonic test (UT) verification inspection on the complete-joint penetration (CJP) groove welds on the South Tower Head Chimney Parapet wall after Quality Control (QC) performed their final NDT as per CCO 196 and the contract specifications. The following NDT was performed on the following weld locations.

UT: Exterior Side:

A4 Wall- A4a- base plate to A4b- wall plate CJP weld - 10% of the weld length inside of QC's test area.
A5 Wall- A5a- base plate to A5b- wall plate CJP weld - 10% of weld length inside of QC's test area.
A6 Wall- A6a- base plate to A6b- wall plate CJP weld - 10% of weld length inside of QC's test area.
A7 Wall- A7a- base plate to A7b- wall plate CJP weld - 10% of weld length inside of QC's test area.
A8 Wall- A8a- base plate to A8b- wall plate CJP weld - 10% of weld length inside of QC's test area.

MT: Exterior Side:

A4 Wall- A4a- base plate to S. Tower Head top plate PJP weld- 10% of weld length inside of QC's test area.
A5 Wall- A5a- base plate to S. Tower Head top plate PJP weld- 10% of weld length inside of QC's test area.
A6 Wall- A6a- base plate to S. Tower Head top plate PJP weld- 10% of weld length inside of QC's test area.
A7 Wall- A7a- base plate to S. Tower Head top plate PJP weld- 10% of weld length inside of QC's test area.
A8 Wall- A8a- base plate to S. Tower Head top plate PJP weld- 10% of weld length inside of QC's test area.
A5b- wall plate to A6b- wall plate PJP weld- 10% of weld length inside of QC's test area.

MT: Interior Side:

A5 Parapet Wall-
A5a- base plate to Tower Head top plate fillet weld- 10% of weld length inside of QC's test area.
A5a- base plate to A5b- wall plate fillet weld- 10% of weld length inside of QC's test area.
A5b- wall plate to A5d- top plate fillet weld- 10% of weld length inside of QC's test area.
A5e- stiffener to A5b- wall plate fillet weld; A5e stiffener to A5a- base plate fillet weld; A5e stiffener to A5d- top plate fillet weld. 10% of weld length inside of QC's test area.
A5f- stiffener to A5b- wall plate fillet weld; A5f stiffener to A5a- base plate fillet weld; A5f stiffener to A5d- top plate fillet weld. 10% of weld length inside of QC's test area.
A5g- stiffener to A5b- wall plate fillet weld; A5g stiffener to A5a- base plate fillet weld; A5g stiffener to A5d- top

plate fillet weld. 10% of weld length inside of QC's test area.
A5h- stiffener to A5b- wall plate fillet weld; A5h stiffener to A5a- base plate fillet weld; A5h stiffener to A5d- top plate fillet weld. 10% of weld length inside of QC's test area.

The NDT UT and MT verification inspection performed appeared to be in general compliance with CCO 196 and the contract specifications.

Summary of Conversations:

Only general conversations between QC and QA on this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy, 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Peterson,Art	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer